



Yorkshire Philosophical Society.

ANNUAL REPORT

FOR

MDCCCXCIX.



ANNUAL REPORT

OF THE COUNCIL

OF THE

YORKSHIRE

PHILOSOPHICAL SOCIETY

FOR

MDCCCXCIX.



PRESENTED TO THE ANNUAL MEETING,

FEBRUARY 12th, 1900.

YORK :
COULTAS & VOLANS, PRINTERS, KING STREET,
1900.

TRUSTEES
OF
THE YORKSHIRE MUSEUM.
APPOINTED BY ROYAL GRANT.

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EDWIN GRAY, LL.M.

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MINERALOGY	- - - - -	W. H. HUDLESTON, M.A., F.R.S.
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KEEPER OF THE MUSEUM.

HENRY MAURICE PLATNAUER, A.R.S.M., B.Sc.

REPORT OF THE COUNCIL
OF THE
YORKSHIRE PHILOSOPHICAL SOCIETY,
FEBRUARY 12TH, 1900.

The year 1899, though uneventful, has been on the whole one of prosperity to the Society. The number of members has somewhat increased, the losses by death and resignation being more than balanced by thirty-five accessions. The income has been £1,262, as against £1,190 for the previous year, but this includes special donations amounting to £28 10s. towards cost of a new anemometer.

The expenses—£1,275—exceed the income by £13, but there is still a substantial balance of £150 in the hands of the Treasurer after paying all known liabilities. The Council hope to keep this balance in hand for the present as a nest-egg for several much needed improvements in the Museum, which they do not feel justified in undertaking at present. The causes of increased expenditure,—several of them exceptional, (and but for which the balance would have been on the right side),—are :

- (1) Drainage of St. Mary's Lodge and the Baths—£52.
- (2) New Locks and Keys—£20.
- (3) Bronze Tablet for the Queen Margaret's Archway—£15.
- (4) Payment to Meteorological Observer, formerly paid by Meteorological Office—£12.
- (5) Anemometer, £40—less £28 10s. raised by special subscription—£11 10s.*

* The greater part of this deficit has already been subscribed, and it is hoped that some further donations may yet be received.

With regard to these special items it may be remarked—

(1) The Drainage.—The alterations were ordered by the local sanitary authorities, and the Society had no option in the matter.

(2) A good many keys have been lost by members during the last few years, and it is known that in several cases the keys thus lost have passed into the hands of unauthorized persons. In order, therefore, to better secure the due privacy and safe custody of the premises, the Council resolved to change the locks and keys of the Gardens. A circular was sent out with the announcement of this change, requesting members to keep the new keys in safe custody, or to entrust them to none but responsible members of their households. The Council desire to call special attention to this request and to beg that it may be carefully observed. The new keys are much more portable than the old ones, and are small enough to be carried on a bunch with others.

(3) The Meteorological Office formerly paid an annual gratuity to the observer who forwarded daily by telegraph the reports of the weather which appeared in the newspapers. It seems that the meteorological office receives a fixed annual grant from Parliament, the details of the disposal of which are left in the hands of the officials. Owing to certain clerks having retired on pensions, the amount available for general current expenses is diminished, and the daily telegraphic reports from certain stations are discontinued. The department is anxious to have the same observations taken as formerly and the results supplied to it at intervals, but at the expense of local people. Unfortunately the subject is not sufficiently political to make a parliamentary question likely to be of use.

(4) The Anemometer, or self-recording wind gauge, is of a new and improved pattern, and registers on a band of paper from moment to moment, the force of the wind. Those interested will be able on any windy day to see each gust of wind recording itself. The Council is much indebted to G. Crawhall, Esq., for the interest he has taken in the matter and for his liberality and energy in obtaining subscriptions.

The following Lectures have been delivered in the Museum during the year :—

Thursday, January 19th.—“Eclipses of the Sun” (with Lantern Illustrations, including some Photographs taken by the Lecturer on January 22nd, 1898, while in India with Sir J. Norman Lockyer, K.C.B., F.R.S., &c.). By A. Fowler, A.R.C.S., F.R.A.S.

Thursday, February 2nd.—“Vesuvius and its late Eruption” (illustrated by Lantern Pictures from Photographs taken by the Lecturer). By Tempest Anderson, M.D., B.Sc.

Thursday, February 16th.—“The Great Sahara” (with Lantern Illustrations from Photographs taken by the Lecturer). By H. Bendelack Hewetson, F.L.S., F.Z.S., F.R.G.S.

Thursday, March 2nd.—“Joan of Arc.” By Mrs. Fawcett.

Thursday, March 16th.—“London Traffic and the New Deep Level Railways” (Illustrated by Lantern Pictures from Photographs taken by the Lecturer). By W. C. Copperthwaite, A.M.I.C.E.

Thursday, April 13th.—“Episodes of an American Tour” (Illustrated by Lantern Pictures from Photographs taken by the Lecturer). By Malcolm Spence.

Thursday, October 12th.—“A Visit to Southern Mexico” (Illustrated by Lantern Pictures). By John W. Rowntree.

Thursday, October 26th.—“The Roman Wall in Northumberland” (Illustrated by Lantern Pictures). By Thos. Hodgkin, D.C.L.

Friday, November 10th.—“West Africa” (Illustrated by Lantern Pictures). By Miss Mary Kingsley.

Thursday, November 23rd.—“Old Yorkshire Customs and Home Industries” (Illustrated by Antique Objects). By W. Horne, F.G.S.

Thursday, December 7th.—“Splashes studied by Instantaneous Photography” (Illustrated by Lantern Pictures). By R. S. Cole, M.A.

Thursday, December 21st.—“Climbing in the Rocky Mountains” (Illustrated by Lantern Pictures). By Harold B. Dixon, F.R.S., &c.

The Council again desire to place on record grateful acknowledgments to the lecturers who have most generously given their services, besides in many cases putting themselves to the inconvenience of a long railway journey; and also to those who have read papers at the monthly meetings.

It will be gratifying to the members of this Society to learn that the Museum premises have on several occasions been used by other associations working for the advancement of knowledge. The York Medical Society has on two occasions held well attended meetings in our lecture theatre; the York University Extension Society has given three courses of lectures here, and the York and District Field Naturalists' Club continues to hold its monthly meetings and to lodge its library and collections in this Museum.

In August last the Museum Gardens were again visited by the Benson Shakespearian Co., and a charming performance of “As you like it” was given in the open air. Special terms were obtained for admitting members free, and the Council have reason to think that the entertainment was appreciated.

An entirely new departure was made by the Council during the past summer in the form of a Garden Party—and it must have been a revelation to many of the members to find that the Gardens were so admirably adapted for the purpose. A Band played in front of the Museum; games of various kinds were provided, and tea and light refreshment were supplied. Sir Charles Strickland, the President of the Society, attended with some members of his family, and rendered every assistance in receiving and entertaining the guests. It is perhaps as well to note that the expense did not in any way come out of the funds of the Society, but was privately subscribed by the members of the Council.

Of our losses by death we would specially mention that of Major J. A. Barstow, who was killed by a bicycle accident whilst riding from Malton to York. Major Barstow was not only a Vice-President of the Society, but had for many years

been a hard working and generous member of the Council, always ready to preside at our gatherings, and assist with practical advice in the management of the Garden and Buildings; he had also enriched the collections by numerous valuable donations.

An interesting and extremely artistic Tablet has been placed upon Queen Margaret's Gateway at the Exhibition end of Bootham, and your Committee desire to express the thanks of the Society to Mr. Brierley, who designed the Tablet, and to Messrs. Longden & Co., of Sheffield, who modelled and cast it without making any charge beyond the actual money out of pocket.

The Council are very desirous that similar Tablets should be placed upon each of the Bars, and every other building of historical interest, giving a short epitome of the distinctive historical events with which they are associated. It can hardly be expected that this Society should bear the expense, which is considerable, but they would be willing to co-operate with the Corporation in preparing the inscription, if the city authorities would bear the cost of making and fixing Tablets.

The Council would again appeal to the owners of property adjoining the Bar Walls in Bootham and Marygate to evince a public spirit by allowing such houses, many of which are far from sanitary, to be gradually removed, and the Wall exposed to the road. If owners are not prepared to make the present sacrifice in the rents, the Council would venture to suggest that a devise to the Philosophical Society or the York Corporation for the purpose of removal would meet the case.

The Council recommends the Rev. W. Haworth as Vice-President in the place of Major J. A. Barstow deceased, and Mr. W. H. Brierley, the Rev. E. S. Carter, and Messrs. W. H. Cobb, J. W. Cudworth, and Herbert Leetham as members of Council, in the place of the Rev. W. Haworth and of Sir C. A. Milward, Messrs. E. R. Dodsworth, J. Backhouse, and Geo. Wilson, who retire by rotation.

ARCHÆOLOGY.—Numerous additions have been made to the collections during the year, chiefly from the excavations in Davygate and S. Sampson's Square. The objects discovered in these excavations, though they did not in some respects come up to expectation, included two remarkably fine green-glazed jugs. One of these—a large and perfect specimen—was secured for the Museum through the kindness of James Melrose, Esq.

So rapidly do our antiquities accumulate that their accommodation threatens to become a serious problem. The Hon. Curator is glad to report that through the generosity of Mr. Backhouse alterations have been made in the basement of the Museum that will give a largely increased amount of storage for stone and pottery. But our collections are sadly cramped by want of space, and the question of extension merits the serious attention of the Society.

It may also be mentioned that two Norman Gotches, formerly belonging to the Mayhew Collection, have been secured by purchase. Up to the time of this acquisition we possessed no pottery that could with certainty be regarded as Norman.

GEOLOGY.—The Honorary Curator of Geology reports that few additions have been made to the collection during the past year. Coal measure fossils from Normanton have been presented by A. F. Brown, Esq., and some Lias fossils from the Drift at Lilling, including a very fine specimen of Ammonite, by J. Smith, Esq.

Specimens for description have been sent to H. Woods and Wheelton Hind. The Yorkshire specimens of Permian fossils have been re-labelled. The income from the Reed Fund has been spent in binding books.

LIBRARY.—The additions to our Library are steadily and continuously coming in, but the re-arrangement made in 1897 enables the Librarian to cope with them. The magnificent publications of the United States Government are, however, arriving in such numbers that it is doubtful whether the space intended for a ten years' extension of these books will last for more than three years.

The Librarian has much pleasure in reporting that the Catalogue of the Library is finished and in the press. In the course of a few weeks the Society will at length possess a printed catalogue of its books. The Librarian desires once more to express his thanks to Mr. George Wilson for the help he has given in preparing the catalogue.

COMPARATIVE ANATOMY.—The collections in this department are in good order. No additions of any importance have been made except two fine Reindeer Skulls (male) from Norway, presented by Mr. George Hooper.

PHOTOGRAPHIC SECTION.—The interest in this section has been well sustained during the year, and a fair increase in the membership has taken place, while there is promise of yet more. During the past year the meetings have certainly benefited considerably so far as attractiveness is concerned by the amalgamation of the Section with the Affiliation of Photographic Societies. From this Organization, which embraces upwards of eighty photographic societies, prints, lantern slides, or even technical papers may be borrowed for inspection or discussion at the Section's meetings.

The usual exhibition of Lantern Slides by a few members of the Section took place in the spring, open to all members of the Yorkshire Philosophical Society, and apparently gave the usual satisfaction. The income of the Section continues to be sufficient for its moderate expenses.

BOTANY.—The specimens of flowering plants which have been arranged during the year (1899) will be found enumerated on pp. 11-24. The most important additions to this department consists of two specimens from F. H. Weekes, Esq., York, viz. :—

<i>Rubus chamæmorus</i> , Linn.	} Morrone Hill, Braemar.
<i>Linnaea corralis</i> , Gronov.	

MINERALOGY.—The collections in this department are in good order, and seem to be appreciated by visitors. But no additions have been made to them during the past year, nor are there any alterations to report during that period.

ORNITHOLOGY.—The collection of British Birds is being added to year by year, but many gaps remain. Many of the specimens obtained during 1899 have been cased and put into the Gallery. The Honorary Curator is making a full catalogue of the British Birds in the Museum, giving history and reference where these are known. The first instalment of this catalogue will be found on pp. 1—9 of this Report. Another very useful work undertaken by the Honorary Curator, in conjunction with Mr. Oxley Grabham, is the division of the foreign birds into geographical groups. It is hoped that in a short time a series will be exhibited illustrating Dr. Sclater's well known division of the earth into provinces.

METEOROLOGY.—1899 must be reckoned on the whole a good year.

Temperature was marked by a greater range than in 1898, the spring months having a lower, and the summer months a much higher temperature, the annual mean temperature being 48·9 as against 49·5. The fine weather during June, July, August, rapidly ripened the various crops, though the yield was probably disappointing owing to deficient rainfall. The lowest temperature was recorded on December 16th, when 14° F. was registered, and the highest on August 25th when 86·0° F. was the reading. The maximum temperatures of June, July, August, and September were 81°, 83°, 86°, 80°. The temperature of the later months of the year was much lower than for 1898.

A *Mean Pressure* of 29·949 has been recorded, as against 29·945 for 1898, January and April being lowest with 29·748 and 29·765 respectively, and August highest with 30·104. The extreme range of pressure is 2·385 inches as against 1·782 for 1898.

Owing to an accident to the Sunshine Recorder caused by a severe gale, the records of *Bright Sunshine* have not been continued between March and December. The instrument has however been repaired and replaced, and the observations have been resumed. For the first three months there was a decided fall-off in the hours observed.

Rain or Snow fell on 182 days in 1899, 8 above the average. The total fall of 22·400 being again less (by 1·330 inches)

than that of the previous year. The heaviest fall was on the 11th of May, when 1·200 inches fell. Thunder was heard on 12 days, as compared with 10 in '98 and 7 in '97. May was the wettest month of the year with a fall of 3·68 inches, whilst August, usually our wettest month, produced only ·91 inches, and thus was the driest month of the year. The cumulative totals since 1841 now amount to:—August 159·32 inches, October 157·73 inches, and July 153·68 inches.

The height of the Ouse, as registered by the automatic recorder at the Guildhall, York, appears to have been highest in 1899 on January 22nd, on which day at 5 p.m. the river was 12ft. 8in. above summer level. There was considerable flood-water in the river during the middle of February, and again in April and May. During the four months, June-September, however, was very low, being below summer level practically from June 26th to September 16th. Much water came down the river during the early days of November, but during the latter half of that month and nearly to the end of December the river was little above summer level. It might be interesting to trace a connection between the height of the river and the general health of the city. During the previous year the highest level was 9ft. 9in. (Oct. 19th).

In 1899 two gifts of some interest and utility have been made to the Meteorological department of the Museum. Mr. R. Thompson has presented a self-registering Barograph, the sinuous curves of which are faithful records of barometric readings, which would otherwise be lost. And by the co-operation of Mr. George Crawhall and Mr. R. Thompson sufficient funds have been collected to erect upon the Museum a self-registering Anemometer. It is much to be regretted that this increase of local interest in meteorological observations should coincide with the loss of the grant from the Meteorological Office.

OBSERVATORY.—The thanks of the Society are due to Mr. Scott, who has spent a considerable amount of time and trouble on the equatorial and transit telescopes and has brought both instruments into a satisfactory working condition. Steps will shortly be taken to warm the Observatory so as to counteract the effects of damp.

STATION, YORK.—THE MUSEUM.

Longitude 1° 5' W., Latitude 53° 57' N. Height above Mean Sea Level 56 ft. Gravity Correction + .024 in.

1899.	Mean Pressure at 32° Fahrenheit at M. S. Level	Air Temperature.										Humidity.										
		9 a.m.			9 pm.			Mean.			Depm. of Wet Bulb.			Tension of Vapour.			Percentage.					
		°	°	°	°	°	°	°	°	°	°	°	in.	in.	in.	9 a.m.	9 p.m.	Mean.	9 a.m.	9 p.m.	Mean.	
		ins.	°	°	°	°	°	°	°	°	°	°	°	in.	in.	in.	%	%	%	%	%	%
Jan.	29.748	38.8	39.9	39.4	35.2	44.9	22.0	26th	54.4	21st	1.2	1.5	1.4	1.2	1.5	1.4	.217	.217	.219	90.3	88.0	89.2
Feb.	29.858	39.1	40.5	39.8	34.1	46.5	22.0	28th	59.1	10th	1.7	1.7	1.7	1.7	1.7	1.7	.209	.222	.216	85.7	86.6	86.2
Mar.	30.021	41.1	40.6	40.9	34.3	49.4	22.0	21, 24	60.0	13th	2.4	2.0	2.2	2.4	2.0	2.2	.213	.217	.215	81.7	84.8	83.3
April	29.765	47.1	44.3	45.7	39.5	52.5	29.4	18th	61.0	28th	3.4	2.4	2.9	3.4	2.4	2.9	.252	.243	.248	76.6	82.2	79.4
May	30.018	50.7	47.5	49.1	40.9	56.8	30.8	5th	71.0	31st	4.3	2.8	3.6	4.3	2.8	3.6	.273	.268	.271	73.9	80.5	77.2
June	.070	61.4	57.8	59.6	49.7	70.5	41.8	14, 15	81.0	6th	6.5	4.0	5.3	6.5	4.0	5.3	.356	.367	.362	65.6	76.2	70.9
July	.051	64.6	61.6	63.1	55.1	72.5	49.0	17th	83.0	12th	5.4	3.8	4.6	5.4	3.8	4.6	.431	.429	.430	70.6	77.9	74.3
Aug.	30.104	63.8	60.6	62.2	53.5	72.7	46.0	11th	86.0	1, 25	5.1	3.2	4.2	5.1	3.2	4.2	.428	.428	.428	72.5	81.2	76.9
Sept.	29.774	56.3	54.4	55.4	47.7	63.2	36.0	29th	80.0	5th	4.5	3.0	3.8	4.5	3.0	3.8	.338	.350	.344	73.8	81.4	77.6
Oct.	30.028	46.2	47.9	47.1	40.6	55.5	30.0	20th	64.0	17th	1.9	1.5	1.7	1.9	1.5	1.7	.275	.299	.287	87.1	89.1	88.1
Nov.	30.081	46.6	46.5	47.6	41.0	52.7	25.0	17, 18	63.0	2, 4	2.4	2.5	2.5	2.4	2.5	2.5	.268	.265	.267	83.7	83.3	83.5
Dec.	29.873	35.3	34.8	35.1	30.5	40.1	14.0	16th	53.0	4th	1.1	0.8	1.0	1.1	0.8	1.0	.192	.190	.191	90.8	91.6	91.2
Year	29.949	49.3	48.0	48.7	41.8	56.5	—	—	—	—	3.3	2.4	2.9	3.3	2.4	2.9	.288	.292	.290	79.4	83.6	81.5

STATION, YORK.—THE MUSEUM.

Heights above Ground :—Barometer, 3 feet ; Thermometers, 4 feet ; Rain-gauge, 1 foot.

1899.	Amount of Cloud.			Rainfall.			Weather, No. of Days of							Wind, No. of Observations of											
	9 a.m.	9 p.m.	Mean	Total.	Max.	Day.	Rain.	Snow.	Hail.	Thunder	Storm	Clear	Sky.	Over-	Gale.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	
				ins.	ins.																				
Jan.	6·7	6·6	6·7	2·21	·33	11th	23	4	0	0	3	13	1	13	3	3	3	6	16	7	10	4	0		
Feb.	5·2	5·6	5·4	1·14	·33	7th	11	4	0	0	6	7	0	6	1	13	4	22	5	2	2	1			
Mar.	5·9	4·9	5·4	1·17	·29	30th	18	8	1	0	5	6	1	13	1	1	2	13	5	19	5	3			
April	7·2	6·6	6·9	2·05	·32	6th	21	1	0	1	2	12	2	15	3	3	3	11	5	14	6	0			
May	6·4	5·8	6·1	3·68	1·20	11th	16	0	0	2	4	13	0	16	9	10	4	7	4	6	6	0			
June	5·4	5·0	5·2	1·46	·36	20th	9	0	0	3	9	10	0	14	5	14	5	5	0	12	5	0			
July	5·5	5·2	5·4	1·31	·59	3rd	12	0	0	3	5	7	0	6	6	5	2	7	4	26	5	1			
Aug.	4·6	3·8	4·2	0·91	·22	29th	12	0	0	2	8	3	0	5	11	16	5	7	2	12	4	0			
Sept.	4·8	4·6	4·7	2·48	·84	21st	17	0	1	1	4	2	3	3	0	4	3	11	9	23	7	0			
Oct.	6·4	5·7	6·1	2·15	·82	1st	14	0	0	0	2	10	1	6	1	4	7	15	6	13	8	2			
Nov.	6·2	6·1	6·2	1·00	·26	7th	11	0	0	0	2	8	2	4	0	2	6	14	11	19	2	2			
Dec.	6·7	6·4	6·6	2·84	·57	28th	18	6	0	0	4	13	0	13	6	6	4	13	4	7	7	2			
Year	5·9	5·5	5·7	22·40	—	—	182	23	2	12	54	104	10	114	46	81	51	141	62	163	61	11			

RIVER HEIGHT RECORDS REGISTERED BY THE AUTOMATIC RECORDER
AT THE GUILDHALL, YORK, 1899.

Date	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.
1	1 a.m.	3 4	noon	2 10	noon	1 7	6 p.m.	2 6	9 a.m.	0 11	9 a.m.	0 5
2	noon	3 0	"	2 9	"	1 7	1 a.m.	2 0	"	1 6	"	0 6
3	"	3 1	"	2 8	"	1 6	12 p.m.	1 2	"	0 10	"	0 5
4	12 p.m.	3 8	"	2 7	"	1 6	noon	1 2	"	1 2	Not taken	(Sunday)
5	4 p.m.	8 1	"	2 6	"	1 5	"	1 3	"	0 10	9 a.m.	0 5
6	1 a.m.	6 10	"	2 6	"	1 4	11 p.m.	2 7	"	0 6	noon	0 4
7	12 p.m.	2 8	"	2 5	"	1 4	12 p.m.	3 5	"	0 5	"	0 4
8	11 a.m.	2 10	"	4 6	"	1 4	1 a.m.	3 5	"	0 4	"	0 3
9	noon	2 6	"	7 6	"	1 4	"	2 11	"	0 5	"	0 3
10	1 a.m.	2 6	3 p.m.	8 10	"	1 4	12 p.m.	1 2	"	0 4	"	0 3
11	5 p.m.	3 9	1 a.m.	8 5	"	1 4	6 p.m.	1 8	"	0 4	"	0 3
12	12 p.m.	3 6	noon	6 3	"	1 5	1 a.m.	1 8	5 p.m.	4 8	"	0 2
13	3 p.m.	8 9	1 a.m.	4 2	"	1 3	noon	1 3	9 a.m.	6 9	"	0 2
14	1 a.m.	8 2	noon	6 6	"	1 3	12 p.m.	1 6	Not taken	(Sunday)	"	0 2
15	"	3 11	4 a.m.	7 3	"	1 3	"	3 5	9 a.m.	3 5	"	0 1
16	12 p.m.	8 0	1 a.m.	4 2	"	1 3	noon	5 9	5 p.m.	5 0	"	0 1
17	4 a.m.	8 4	"	3 2	"	1 2	1 a.m.	3 10	9 a.m.	3 9	"	0 1
18	1 a.m.	6 3	"	2 9	"	1 2	"	3 0	5 p.m.	2 0	"	0 2
19	12 p.m.	9 11	noon	2 6	"	1 2	1 a.m.	2 6	9 a.m.	1 4	"	0 2
20	3 p.m.	12 2	1 a.m.	2 5	"	1 1	"	2 2	1 p.m.	2 10	"	0 1
21	1 a.m.	11 8	noon	2 2	"	1 1	noon	1 8	Not taken	(Sunday)	"	0 4
22	5 p.m.	12 8	"	2 1	"	1 1	"	1 6	Not taken	(Bk H'day)	"	0 4
23	1 a.m.	12 6	"	1 11	"	1 0	"	1 5	9 a.m.	1 6	"	0 3
24	"	11 3	"	1 10	"	1 0	"	1 4	5 p.m.	4 6	"	0 1
25	"	8 0	"	1 9	"	1 0	"	1 6	9 a.m.	3 5	"	0 1
26	"	4 3	"	1 8	"	1 0	"	1 6	"	1 8	"	below 0
27	"	3 6	6 p.m.	1 7	"	2 1	"	1 6	"	1 4	"	0 1
28	"	3 3	noon	1 11	"	1 1	"	1 6	Not taken	(Sunday)	"	0 1
29	"	3 0	noon	3 8	"	3 8	"	1 5	9 a.m.	0 7	"	S.L.
30	noon	2 10	1 a.m.	3 3	"	3 2	12 p.m.	2 4	"	0 3	"	above 0
31	"	2 10	"	2 1	"	2 1	"	1 4	5 p.m.	0 6	"	2

RIVER HEIGHT RECORDS.—Continued.

Date	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.
1	noon	0 2	noon	below 0 1	noon	above 0 1	6 a.m.	6 4	9 a.m.	0 10	noon	0 3
2	"	0 2	"	0 1	12 p.m.	above 0 1	11 p.m.	8 2	"	0 6	12 p.m.	0 9
3	3 p.m.	0 8	"	0 2	6 a.m.	0 11	1 a.m.	8 0	8 p.m.	1 6	1 a.m.	0 9
4	11 a.m.	S.L.	"	0 3	1 a.m.	0 8	5 p.m.	7 2	1 p.m.	4 3	"	0 6
5	6 p.m.	0 3	"	0 3	"	0 2	3 p.m.	1 5	Not taken (Sunday)		3 p.m.	0 11
6	1 a.m.	0 3	"	0 3	noon	S.L.	"	1 3	9 p.m.	2 6	12 p.m.	2 1
7	noon	0 3	"	0 3	"	S.L.	1 a.m.	1 2	1 a.m.	1 0	"	2 10
8	"	0 2	"	0 6	12 p.m.	S.L.	12 p.m.	0 10	12 p.m.	3 0	"	1 4
9	"	below 0 2	"	0 3	1 a.m.	S.L.	1 a.m.	0 10	3 p.m.	4 8	11 a.m.	0 6
10	"	0 4	"	0 3	noon	below 0 2	noon	0 5	1 a.m.	3 9	1 a.m.	1 2
11	"	0 6	"	0 3	"	0 3	1 a.m.	0 8	12 p.m.	4 0	"	0 9
12	"	0 6	"	0 3	"	0 4	noon	0 8	7 a.m.	5 8	noon	0 8
13	2 p.m.	above 2 4	"	0 3	"	0 3	10 p.m.	1 9	1 a.m.	4 0	"	0 6
14	1 a.m.	1 4	"	0 3	"	0 2	9 a.m.	1 6	noon	1 3	"	0 5
15	noon	below 0 4	"	0 3	"	0 2	1 a.m.	0 11	1 a.m.	1 2	1 a.m.	0 5
16	"	0 2	"	0 2	"	0 3	"	0 8	10 p.m.	0 10	"	0 2
17	"	0 5	"	0 2	4 p.m.	above 0 2	8 p.m.	0 6	1 a.m.	0 10	12 p.m.	0 6
18	"	0 6	"	1 2	noon	0 2	1 a.m.	0 5	9 a.m.	0 6	1 a.m.	0 6
19	"	0 4	"	1 2	1 a.m.	S.L.	"	0 3	Not taken (Sunday)		noon	0 3
20	"	0 4	"	0 1	12 p.m.	above 1 4	"	0 2	12 p.m.	0 7	"	0 3
21	"	0 4	"	0 8	3 p.m.	1 5	"	0 2	noon	0 6	"	0 4
22	1 a.m.	0 3	"	0 4	12 p.m.	2 6	noon	0 1	"	9 6	12 p.m.	0 5
23	12 p.m.	0 2	"	0 4	12 p.m.	2 8	1 a.m.	0 1	"	0 6	noon	0 8
24	noon	0 3	"	0 4	3 a.m.	1 1	12 p.m.	S.L.	1 a.m.	0 6	12 p.m.	1 9
25	"	0 3	"	0 4	4 p.m.	0 11	6 p.m.	S.L.	"	0 5	noon	2 5
26	"	0 4	"	0 2	1 a.m.	0 8	"	S.L.	noon	0 4	1 a.m.	1 10
27	1 a.m.	0 4	"	0 2	12 p.m.	0 8	"	1 3	"	0 3	"	1 3
28	"	S.L.	"	0 5	9 p.m.	2 6	9 p.m.	1 3	"	0 4	"	0 10
29	"	S.L.	"	0 4	1 a.m.	2 5	1 a.m.	1 0	12 p.m.	0 4	"	0 6
30	noon	below 0 2	"	S.L.	"	1 0	12 p.m.	1 6	1 a.m.	0 4	12 p.m.	3 8
31	"	0 2	"	S.L.	12 p.m.	5 8	5 p.m.	1 9	noon	0 3	"	5 8
							"	1 9	1 p.m.	0 3	1 p.m.	6 11

HOUSE FLOODS FROM RETURNS TO THE CITY SURVEYOR.
COMPARATIVE TABLE, 1899.

Date.	Nidd at Pateley Bridge.		Ure at Middleham Bridge.		Swale at Richmond.	
	Hour.	Height	Hour.	Height	Hour.	Height
		ft. in.		ft. in.		ft. in.
Jan. 12					4-30 p.m.	3 0
" 13			7 a.m.	4 0		
" 16			7 a.m.	6 10		
" 18					6 p.m.	4 0
" 19	9 a.m.	7 0	8 a.m.	12 2	9 a.m.	6 6
" 20			12 mid.	5 2		
" 21			4 p.m.	11 0	4 p.m.	4 0
" 23			7 a.m.	6 6		
Feb. 8			1 p.m.	4 0		
" 9			4 p.m.	5 0		
" 10			4 p.m.	4 9		
Mar. 29			7 a.m.	4 0		
April 7			6 a.m.	4 10		
" 15			7 a.m.	3 6		
May 12			7 a.m.	4 0		
" 20			6 a.m.	4 0		
" 24			6 a.m.	3 0		
July 12			8 p.m.	9 0	6-30 p.m.	5 0
" 26			10 a.m.	2 6		
Sept. 2			11 a.m.	2 1		
" 18			4 p.m.	2 1		
" 22			6 a.m.	6 1		
" 26			4 p.m.	3 0		
" 29			11 a.m.	3 1		
" 30			11 a.m.	9 10	11.30 a.m.	6 0
Oct. 2			7 a.m.	5 0	6 a.m.	4 0
" 3			4 p.m.	2 4		
" 30			7 a.m.	4 0		
Nov. 3			7 a.m.	4 0		
" 5			7 a.m.	7 8		
" 8			7 a.m.	5 6	9 a.m.	2 6
" 10			4 p.m.	4 0		
" 11			4 p.m.	9 2		
Dec. 30			4 p.m.	6 2		

YORK—THE MUSEUM.
SUNSHINE VALUES.

1899.	Sunshine Returns.		
	Total hours.	Per-centage. 1899.	Per-centage. 1898.
January	19.3	8	7
February	74.8	28	32
March	120.3	33	33
April			24
May			30
June			30
July			42
August			31
September			33
October			21
November			12
December			8
Year			25.3

YORK—THE MUSEUM.

1899.	Highest Barometer.	Lowest Barometer.
January	30.774 26th, 9 a.m.	28.795 2nd, 9 a.m.
February	30.595 28th, 9 a.m.	28.969 13th, 9 p.m.
March	30.575 1st, 9 a.m.	28.990 9th, 9 a.m.
April	30.278 22nd, 6 p.m.	29.041 7th, 8 a.m.
May	30.531 6th, 9 a.m.	29.369 15th, 9 a.m.
June	30.496 8th, 9 a.m.	29.400 20th, 9 p.m.
July	30.464 31st, 9 a.m.	29.372 1st, 9 p.m.
August	30.402 1st, 9 a.m.	29.640 31st, 9 p.m.
September	30.202 10th, 9 p.m.	29.265 30th, 9 a.m.
October	30.449 21st, 9 p.m.	29.231 1st, 9 p.m.
November	30.735 17th, 9 a.m.	29.170 8th, 9 a.m.
December	30.515 3rd, 9 p.m.	28.389 29th, 9 p.m.
Year	30.774 Jan. 26th, 9 a.m.	28.389 Dec. 29th, 9 p.m.

THE TREASURER IN ACCOUNT WITH THE YORKSHIRE

Previous Year.	Dr.	INCOME.					£ s. d.	£ s. d.
	<i>Subscriptions:—</i>							
	Town Members	...	...	...	...	659 0 0	
	Country Members	...	...	...	...	9 0 0	
	Lady Subscribers	...	...	...	...	59 10 0	
	Associates	...	...	...	...	6 0 0	
	Arrears received	...	...	...	...	27 0 0	
	For Keys of Gates	...	...	...	...	68 1 0	
812							828 11 0	
	<i>Donation:—</i>							
	York University Extension Society	...	...	...	...		2 2 0
	<i>Rents:—</i>							
	Major Allenby, St. Mary's Lodge	...	...	...	...	65 0 0	
	Mr. Hill, Marygate Baths	...	...	...	...	40 0 0	
	York Amateur Rowing Club	...	...	...	...	5 0 0	
	York and District Field Naturalists Society, less £1 paid to Attendant	...	...	...	...	2 0 0	
	York Waterworks Company	...	...	...	...	0 1 0	
	Corporation of York	...	...	...	...	2 0 0	
	Yorkshire School for the Blind	...	...	...	...	0 1 0	
114							114 2 0	
	Hire of Tent and Tables	...	...	...	...	15 8 9	
	<i>Less: Expenses of Carriage, Fixing, Repairs, and like</i>					7 12 8		
0							7 16 1	
	Whitsuntide Admission Fees	...	...	...	...	12 9 3	
	<i>Less: Attendants and Police</i>	...	...	...	...	4 2 0	
7							8 7 3	
	<i>Meteorological Department:—</i>							
	Contributions from Meteorological Council	...	...	...	...	5 4 0	
	Subscriptions towards cost of Anemometer	...	...	...	...	28 10 0	
15							33 14 0	
6	Sale of Catalogues	...	...	...	...		5 16 0
2	Sale of Photographs	...	...	...	...		2 3 0
	Sale of Books	...	...	...	...		3 2 6
2	Bank Interest	...	...	...	...		4 2 0
209	Gate Money	...	...	...	...		221 9 2
7	Tennis Courts	...	...	...	...		4 8 0
20	Interest on £918 8s. 9d., India 3% Stock, less Income Tax						26 12 8	
1190							1262 5 8	

Excess of Expenditure over Income 12 19 9

£1275 5 5

Balance in hands of the Treasurer, 31st December, 1899 ... 143 13 9

156

£143 13 9

Examined and found correct,

J. A. CUNNINGHAME.

EDWIN GRAY, *Honorary Treasurer.*

PHILOSOPHICAL SOCIETY FOR YEAR ENDING 31ST DEC., 1899.

Previous Year.

EXPENDITURE.

Cr.
£ s. d. £ s. d. £ s. d.

1	Crown Rent								1	0	0
19	Corporation Rent								19	8	4
	<i>Rates and Taxes:—</i>										
	Rates and Taxes, Parishes of St. Wilfrid, St. Olave, and St. Michael-le-Belfrey ...								27	5	8
	Waterworks Company's Rate								4	8	3
	Gardeners' Licenses								2	5	0
	Receipt and Cheque Books Stamping ...								1	13	2
36									<u>35</u>	12	1
	Insurance								7	5	0
	<i>Salaries and Wages:—</i>										
	Mr. Platnauer								150	0	0
	Mr. Fielden								60	0	0
	Miss Baines								41	12	0
	Mr. Guy								30	0	0
	<i>Attendants at Museum and Hospitium, viz.:—</i>										
	Attendant at Museum	65	0	0							
	Female Attendant at Museum	31	4	0							
	Female Attendant at Hospitium	32	10	0							
									<u>128</u>	14	0
	Gardeners, including temporary labour and extra duty at Gates, &c.								114	6	6
510									<u>524</u>	12	6
198	*Yorkshire Insurance Company, Annuity ...								198	5	9
	<i>General Repairs and Expenses:—</i>										
	Museum and Hospitium, Additional Repairs and Expenses								36	4	3
	<i>Gardens:—</i>										
	Repairing and Painting Greenhouses, and Building new Cold Frames	36	6	10							
	Repairing Fountain Pond	3	4	3							
	General Additions, Repairs, and Expenses	12	17	5							
29	Estate:—								<u>52</u>	8	6
	Builders' and Joiners' Work	8	6	10							
	Slaters' Work	5	9	5							
	Painting and Paperhanging	1	15	0							
	Smiths', Plumbers', and like work ...	2	3	1							
	Drainage	52	3	3							
	Bronze Tablet for Abbey Gateway ...	15	0	0							
58									<u>84</u>	17	7
139	Music, Tennis, Bowls, and other Outdoor Entertainments								<u>173</u>	10	4
9									12	9	11
23	Library—Books and Binding								31	4	10
47	Lectures								42	13	10
3	Printing and Stationery								5	8	1
23	Printing Reports and Postage thereof ...								20	8	6
	Printing Communications to Members and Postage of same								10	5	5
12	<i>Gas, Coal, and Coke:—</i>										
	Museum								26	4	5
	Gardens								12	10	10
	Estate								16	16	7
45									<u>55</u>	11	10
	Ornithological Department								23	1	0
13	Antiquarian Department								26	4	8
	<i>Meteorological Department:—</i>										
	Observations								15	12	0
	Anemometer								39	17	0
									<u>55</u>	9	0
2	Preparing Photographs for sale								0	12	4
7	Sundry Postages								8	5	10
1	Sundries, including carriage of Parcels ...								3	0	7
	New Locks and Keys for Garden Gates, and Repairs to Gates								20	15	7
1132									<u>£1275</u>	5	5
	Balance in hands of the Treasurer, 31st December, 1898 ...								156	13	6
	Excess of Expenditure over Income, 1899								12	19	9
156									<u>£143</u>	13	9

* Annuity of £201 8s. 0d. payable until October, 1914, inclusive, created to repay an advance of £3500 made by the Yorkshire Insurance Co.

Principal repaid 1244 18 10

„ outstanding 2255 1 2

Original Advance £3500 0 0

THE TREASURER'S ACCOUNT IN CONNECTION WITH THE FUND FOUNDED BY THE LATE
WM. REED, ESQ., FOR SPECIFIC PURPOSES.

Dr.	INCOME.	£ s. d.	EXPENDITURE.	£ s. d.	Cr.
	Interest on £600 York Corporation 3 per cent Redeem- able Stock, less Income Tax	17 8 0	Books and Binding	18 13 0	
	Interest on £50 placed on deposit at York City and County Bank	1 5 0			
		£18 13 0			£18 13 0

BALANCE SHEET.

	£ s. d.	£ s. d.
Amount of Fund on 31st December, 1899	687 19 2	
Amount invested in York Corporation 3 per cent Redeemable Stock		600 0 0
Amount placed on Deposit at York City and County Bank		50 0 0
Cash in hand		37 19 2
		£687 19 2

NEW MEMBERS.—1899.

- Allanson, Mrs., *Bootham House*.
 Arlidge, Miss, *St. Stephen's Orphanage*.
 Auden, G. A., 76, *Bootham*.
 Barstow, Miss F. A., *Garrow Hill*.
 Border, Samuel, *Coney Street*.
 Broughall, Edward, 21, *Bootham Terrace*.
 Brown, James, 29, *Queen Anne's Road*.
 Burtt, Arthur, D.Sc., *Acomb*.
 Burtt, Philip, *St. George's Place, The Mount*.
 Cotsworth, M. B., *Holgate*.
 Cudworth, W. J., "*Thornleigh*," *Clifton*.
 Elsworth, W. T., 18, *High Ousegate*.
 Haggitt, J. R., 10, *Queen Anne's Road*.
 Hallowes, G. P. B., 48, *Queen Anne's Road*.
 Herron, Capt. R. D., 110, *Bootham*.
 Head Mistress of the High School, *Fishergate*.
 Humphreys, W. H., *The Waterworks*.
 Johnson, Mrs. H. M., 28, *St. Mary's*.
 Jones, Mrs., 23, *St. Mary's*.
 Machell, Hon. Mrs., 13, *St. Mary's*.
 Meyer, Sebastian W., 9, *Park Street*.
 Oldfield, Ernest, 9, *St. Leonard's*.
 Page, W., 29, *St. Mary's*.
 Peters, Joseph, *Tile House, St. George's Place*.
 Richardson, Hugh, 12, *St. Mary's*.
 Roberts, Lieut. L. S., A.S.C., 26, *Petergate*.
 Rowntree, B. S., 32, *St. Mary's*.
 Rowntree, Theodore H., 18, *Bootham Crescent*.
 Wragge, R. H. V., *Market Street*.

NEW LADY SUBSCRIBERS.

- Bell, Miss, 35, *Grosvenor Terrace*.
 Burke, Mrs., 4, *Grosvenor Terracc*.
 Chapman, Miss F., 11, *Minster Yard*.
 Coates, Miss C., 19, *Gillygate*.
 Jepson, Miss F. C., 35, *The Mount*.
 Russell, Miss, 72, *Petergate*.

DONATIONS TO MUSEUM AND LIBRARY.

LIBRARY.

BOOKS PRESENTED.	DONORS.
The Quarterly Journal of the Geological Society of London, Vol. lv., 1899.	} The Society.
The Report of the British Association for the Advancement of Science, Bristol, 1898.	
The Journal of the Chemical Society of London, Nos. 434 to 441, 1899.	} The Society.
Transactions of the Zoological Society of London, Vol. xv., Parts 1, 2, 3. Proceedings, Parts 3, 4, 1898; 1, 2, 3, 1899.	
Catalogue of Birds, Vol. xxvi, of the Lepidoptera Phalænæ, Vol. i. and Vol. i. Plates; Welwitsch's African Plants, Vol. i., Parts 2, 3; Vol. ii., Part 1; List of the Genera and Species of Blastoidea; Hand list of Birds, Vol. i.; and List of the Type and figured Specimens of Fossil Cephalopoda in the British Museum.	} The Trustees of British Museum.
Memoirs and Proceedings of the Manchester Literary and Philosophical Society, Vol. xliii., Nos. 1, 2, 4.	
The Bulletin of the American Geographical Society, Vol. xxx., No. 5; Vol. xxxi., Nos. 1, 2, 3, 4.	} The Society.
Annual Reports of the Smithsonian Institution for 1896-97.	
Reports of the United States Geological Survey, 1896-7 and 1897-8.	} The Survey.

- Memoirs of the Geological Surveys of India, Series xv., Vol. i., Part 3; Vol. x., Part 2; Vol. xxviii., Part 1. Records, Vol. vii., Parts 1, 2; Manual of the Geology of India, Part 1; and General Report of the Geology of India, 1898-9. } The Indian Survey.
- The Proceedings of the Geologists' Association, Vol. xvi., Parts 1, 3. } The Association.
- Transactions of the Leicester Literary and Philosophical Society, Vol. v., Parts 2, 3. } The Society.
- The Journal of the Manchester Geographical Society, Vol. xiv., Nos. 7—12; Vol. xv., Nos. 1—9. } The Society.
- Memoirs of the Russian Geological Society, Vol. viii. No. 4; Vol. xii., No. 3; Vol. xix. Bulletin, Vol. xvii., Nos. 6—10; Vol. xviii., Nos. 1, 2. } The Society.
- Proceedings of the Russian Mineralogical Society, Vol. ii. and Part 19, 1899. } The Society.
- The Norwegian North Atlantic Expedition, Parts 25 & 26. } The Committee.
- Transactions of the Burton-upon-Trent Natural History and Archæological Society, Vol. iv., Part 1. } The Society.
- Transactions of the Edinburgh Geological Society, Vol. vii., No. 4. } The Society.
- Reports of the Australasian Association for the Advancement of Science, Vols. i. to vi. } The Association.
- Proceedings of the Royal Institution of Great Britain, Vol. xv, Part 3, No. 92. } The Institution.
- Annals of the New York Academy of Sciences, Vol. xi., Nos. 1, 2, 3. } The Academy.

- Transactions of the Academy of Science
of St. Louis, Vol. vii., Nos. 17—20;
Vol. viii., Nos. 1—12; Vol. ix., Nos.
1, 5, 7. } The Academy.
- The Kansas University Quarterly, Vol.
i., Nos. 1, 2; ii., No. 2; iii., No. 4;
iv.; v., Nos. 1, 2; vi.-a, Nos. 1, 3, 4;
vi.-b; vii.-a, No. 2; vii.-b, No.;
viii.-a, Nos. 1, 2, 3. } The University.
- Transactions and Proceedings of the
Perthshire Society of Natural Science,
Vol. iii., Part 1. } The Society.
- Bergen Museums Aarvog for 1898 and
1899. } The Council.
- Mitteilungen des Vereins für Erdkunde
zu Leipzig, 1898. } The Society.
- Verhandlungen der russisch-kaiser-
lichen Mineralogischen Gessellschaft,
lxiii., 1 (Second Series). } The Society.
- Ti og et halvt Ars meteorologiske Jag-
tagelser udforte i Trondhjem. } Royal Society of
Norway.
- Annales del Museo nacional de Monte-
video, Vol. ii., No. 2. } The Society.
- Berichte No. 31 und 2 der Ober-
hessischen Gesellschaft für Natur-
und Heilkunde. } The Society.
- Boletin del Observatorio astronomico
de Tacubaya, Vol ii., No. 5. } The Society.
- Ueber der Habitus der Coniferen, by
A. H. Burtt. } The Author.
- Records of the Geological Survey of
New South Wales, Vol. xi., Part 3;
Annual Report of the Department of
Mines and Agriculture for the year
1898; and Report of the Museum,
1898. } The Survey.
- Tenth Report of the Missouri Botanical
Garden. } The Committee.

- Transactions of the Northumberland,
Durham, and Newcastle-upon-Tyne
Natural History Society, Vol. xii.,
No. 1. } The Society.
- Proceedings and Transactions of the
Nova Scotian Institute of Science,
Vol. xi., No. 4. } The Institute.
- The Bulletin of the University of
Nebraska, U.S., Agricultural Experi-
ment Station, Vol. xi. } The University.
- Transactions of the Wisconsin Academy
of Sciences, Arts, and Letters, Vol.
xi. and xii., Part 1. } The Academy.
- Report of the Belfast Natural History
and Philosophical Society, 1897-8. } The Society.
- Transactions of the Natural History
Society of Glasgow, Vol. v., New
Series, Part 2. } The Society.
- Proceedings of the Bath Natural His-
tory and Antiquarian Field Club,
Vol. ix., No. 2. } The Club.
- Indian Meteorological Memoirs, Vol. x.,
Part 1; Meteorological Observations
at Stations of the Second order for
the year 1895; Meteorological Charts
of the Southern Ocean, and weekly
weather Reports. } The Meteorological
Society.
- Journal of the Northamptonshire
Natural History Society, Nos. 73,
74, 75, 76, 1898. } The Society.
- Bulletin of the Geological Institution
of the University of Upsala, Vol. iv.,
No. 1. } The Institution.
- Evidence of Lake Dwellings on the
Banks of the Costa at Pickering. } Hon. Cecil Duncombe
F.G.S.
- Biological Experimentation by Sir
Benjamin Ward Richardson. } Leigh-Brown, Trust.

- R. Mosis Majemonidæ de Sacrificiis }
Liber, dated 1683. } Mr. Poole.
- Notes on the Molar of a Trilophodont }
Mastodon, by Prof. E. Ray Lankester. } The Author.
- General Guide to the Natural History }
Collections Report of the Manchester }
Museum, 1898-9; Index to the Sys- }
tema Naturæ of Linnæus, by G. }
Davies Sherborn. } Museum Committee.
- The Geological Structure of the upper }
portion of Dundry Hill and the }
development of Rivers, by S. S. }
Buckman, F.G.S. } The Author.
- Official Guide to the Norwich Castle }
Museum, and five Annual Reports. } The Curator.
- Report of the Free Library and Museum }
Committee of Bootle. } The Committee.
- Report of the Penzance Natural History }
and Antiquarian Society, 1897-8, } The Society.
- Report on the Wyalong Gold-Field, by }
J. A. Watt. } N.S.W. Government.
- Sixth General Report of the Public }
Library Committee, 1898-9. } The Committee.
- Fourth Report of the Whitechapel }
Museum Commissioners. } The Committee.
- Notes on the Palæontology of the }
Manx Slates, by H. Bolton. } The Author.
- The Eastern Margin of the North }
Atlantic Basin, by W. H. Hudleston, }
F.R.S. } The Author.
- 33rd Report of the Cambridge Museums }
and Lecture Rooms Syndicate. } The Committee.
- Guide to Queensland and International }
Catalogue of Scientific Literature. } Agent-General for
Queensland.
- Bolletini della Biblioteca Nazionale }
Centrale di Firenze, 1899. } The Compiler.
- A Series of Astronomical Books. } Mr. E. S. Cox.

GEOLOGICAL DEPARTMENT.

- A Series of Fossils from the Silkstone }
Coal Mine, Normanton. } Mr. A. F. Brown
- Fossil Shells and Ammonite, found in }
sinking a well at Lilling, Sheriff }
Hutton. } Mr. J. Smith,
Stockton-on-Forest.

ANTIQUITIES.

- A fine Mediæval Jug, some fragments }
of Samian Ware, and various other }
Antiquities found in Davygate ; also }
a stone adze found near Haxby. } Mr. James Melrose,
J.P.
- A Cannon Ball found at Myton. } Mr. Haw, Bootham.
- An old Pocket Dial. } Mr. J. T. Pegg.
- An old carved oak Figure. } Mr. T. B. Whytehead.

ZOOLOGY & COMPARATIVE ANATOMY.

- Four Sea Urchins from the Farne }
Island ; a Sparrow Hawk and com- }
mon Crow, shot at Cottingwith. } Mr. Oxley Grabham,
M.A.
- Twenty-eight Skins of British Birds. } Mr. J. Backhouse,
F.Z.S.
- A Golden-Crested Wren, picked up in }
Driffeld Terrace. } Mr. C. E. Elmhirst.
- Two pairs of Horns and Skulls of the }
Reindeer. } Mr. Geo. Hooper.
- Rostrum of Saw Fish ; Skin of Snake ; }
two Skulls of Birds ; etc. } Mrs. M. A. Dennis.

BOTANY.

- Specimens of *Rubus chamæmoris*, Linn. }
Linnaea corralis, Gronov. } Mr. F. H. Weekes.

MISCELLANEOUS.

- A Barograph. } Mr. R. Thompson.
- A Collection of Sun-Dials and Com- }
passes. } Mr. E. S. Cox.

PRELIMINARY CATALOGUE
OF THE
BRITISH BIRD COLLECTIONS

IN THE POSSESSION OF THE
YORKSHIRE PHILOSOPHICAL SOCIETY,

BY THE
HON. CURATOR, JAMES BACKHOUSE, F.L.S., M.B.O.U., F.Z.S., &c.

PART I.

Order, **PASSERES.** Sub-order, **OSCINES.**
Section, **Oscines Dentirostres.**

Family, **Turdidæ.** Sub-Family, **Turdinæ.**
Genus **Turdus.**

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
Turdus viscivorus Linn. <i>Mistle Thrush.</i> { No. 1. South Road, Durham, July, '95 (Raine) 2 & 3. Adults, York Nurseries (Backhouse)	...	6 clutches, York, Riccall, Giggleswick, &c.; the last named an abnormally small clutch	I
T. musicus Linn. <i>Song Thrush.</i> A & B. Isle of Wight, 1867 (Farman). Skins	'Allis' Coll.	3 clutches from York 2 clutches from Giggleswick of the unspotted variety	...
T. iliacus Linn. <i>Redwing.</i> Seamer Moor, nr. Scarbro', Dec., '89 (Head) York, 2 adults (Backhouse)	...	1 clutch of 5, Lapland; purchased	III

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
<p>T. pilaris Linn. <i>Fieldfare.</i> 1 & 2. Adults, Bridlington, autumn, '95 (Boynton) Skin of adult, Cookham (Sharp) '79</p>	'Allis' Coll.	1 clutch of 4, Lapland 1 ,, 4, Saxony 1 ,, 3, Saxony ; all purchased	IV
<p>T. varius Pall. <i>White's Thrush.</i> 1 & 2. Strickland Collection, without data Adult Rimswell (Stathers, presented) (See "Zoologist," 1882, p. 74.)</p>	...	... ..	V VA
<p>T. merula Linn. <i>Blackbird.</i> 2 males and 1 female, adults, Isle of Wight, '67. Skins (Bree Collection). Purchased Cases of Varieties, "Rudston" Coll., local specimens. VARIETY ad. female, Museum Gardens, May, 1899 (No. 2)</p>	'Allis' Coll.	Several local clutches	VI VIA
<p>T. torquatus Linn. <i>Ring Ousel.</i> 1. Adult, Teesdale, May, '88 (Back- house) P</p>	...	1 clutch of 4, Pickering Moors 1 ,, 3, Sheffield	VII
Genus Monticola.			
<p>Monticola saxatilis (Linn). Skin of adult, Bree Collection, without data. Purchased</p>	...	1 egg without data	...
Sub-Family CINCLINÆ.			
Genus Cinclus.			
<p>Cinclus aquaticus Bechst. <i>Dipper.</i> Holgate, York, May, '94* 2 adult skins, Bree Collection, no data * See Y.P.S. Report, 1895, p.</p>	'Allis' Coll.	Clutch of 5 eggs	IX

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
<p>C. melanogaster C. L. Brehm. <i>Black-bellied Dipper.</i> Welwick, Holderness (Clarke), presented* Adult, skin, Sweden '73, Bree Collection * See <i>Y.N. Union Transactions (Birds)</i>, p. 67 (1879).</p>	...	Clutch of 2 eggs	X
<p>Sub-Family SAXICOLINÆ. Genus Saxicola.</p>			
<p>Saxicola oenanthe (Linn). <i>Wheatear.</i> Skins of 2 juv. males, Brading, I. of Wight, '67, Bree Coll. Skins of 2 females, St. Boniface Downs, I. of Wight, Aug. '67, Bree Coll.</p>	...	2 clutches of 6 from York neighbourhood 1 clutch of 5, Grimston	...
<p>S. Stapazina Vieill Skin of adult male, Asia Minor P</p>
<p>S. deserti Rüpp. <i>Desert Chat.</i> Skin of adult male and female, Tunis P</p>
<p>Genus Pratincola.</p>			
<p>Pratincola rubetra (Linn). <i>Whinchat.</i> Adult male</p>	...	3 clutches from Heworth, York	XIV
<p>P. rubicola (Linn). <i>Stonechat.</i> Adult male, Seamer Moor, '88 (Head)</p>	...	1 clutch of 6 from Armagh, Ireland	XV
<p>Genus Rutililla.</p>			
<p>Rutililla phoenicurus (Linn). <i>Redstart.</i> 2 skins, Isle of Wight, '67, Bree Coll. Immature Male, killed at Spurn Lighthouse, May 13, 1899</p>	...	2 clutches, near York 1 clutch of 10 eggs, Rievaulx (Probably a double brood.)	...

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
<p>R. titys (Scop). <i>Blackstart.</i> (Strickland Coll.) 1 & 2. Male & female adult, without data Skins of 3 males & 2 females, European killed, Bree Coll.</p>	...	1 clutch of 6 eggs from Silesia	XVII
Genus Cyanecula.			
<p>Cyanecula suecica (Linn). <i>Red-spotted Bluethroat.</i> Skin of female, Europe (Verreaux)</p>	...	Clutch of 3, no data	...
<p>Cyanecula (wolff) Brehm. <i>White-spotted Bluethroat.</i> Skin of adult male, Europe, (Verreaux) Skin of 2 juv. females ,, ,,</p>	...	... ..	...
Genus Erythacus.			
<p>Erythacus rubecula (Linn). <i>Robin.</i> Skin of adult male, Morocco Skin of adult female, Germany</p>	P P	'Allis' Coll. 6 Yorkshire clutches	...
Genus Daulias.			
<p>Daulias luscinia (Linn). <i>Nightingale.</i> Skin of Adult male, Essex, '68, Bree Coll. Skin of male, Malta, 1861, Dr. Adams, Bree Coll.</p>	...	2 clutches, Wansford 1 clutch, Thetford	...
Sub-Family SYLVIINÆ.			
Genus Sylvia.			
<p>Sylvia cinerea Bechst. <i>Whitethroat.</i> Skins of 2 adults, no data, Bree Coll.</p>	...	5 clutches from neighbourhood of York 1 clutch from Heworth, extra dark	...
<p>Sylvia curruca (Linn). <i>Lesser Whitethroat.</i> Skins of male and female, Germany</p>	P	4 local clutches	...

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
Sylvia Orphea, Temm. <i>Orphean Warbler.</i>			
Skin of adult, Gibraltar (Reid), Bree Coll.	...	... ..	...
Sylvia atricapilla (Linn). <i>Blackcap.</i>			
Skins of adult male & female, Morocco P	...	4 clutches from neighbourhood of York	...
Skin of male, Easington P			
Sylvia salicaria (Linn). <i>Garden Warbler.</i>			
Skin of male, Cremona P	...	3 (?) clutches York district	...
Skin of female, Germany P			
Sylvia nisoria (Bechst.) <i>Barred Warbler.</i>			
Female shot in garden near Hull (Darley)	...	1 clutch of 4, Silesia	XXVII
Genus Melizophilus.			
Melizophilus undatus (Bodd). <i>Dartford Warbler.</i>			
	...	2 clutches, South Spain	...
Genus Regulus.			
Regulus cristatus Koch. <i>Goldcrest.</i>			
Skin of adult male, Altai P	'Allis' Coll.	1 clutch, Bishopstone	...
Skin of adult female, Roumania P		Several without data	
R. ignicapillus (C. L. Brehm). <i>Firecrest.</i>			
Skins of adult male and female, Altai mountains P	...	1 clutch of 9, Rhenish Prussia	...

SPECIMENS MOUNTED OR SKINS.

SKELETONS.

EGGS.

CASE
No.

Sub-Family

PHYLLOSCOPINÆ.

Genus *Philoscopus*.*Phylloscopus superciliosus*
(Gmel). *Yellow-browed Warbler*.

...

Phylloscopus rufus (Bechst).
Chiffchaff.

Skins of male and female, Sweden P

... 2 local clutches ...

Phylloscopus trochilus (Linn)
Willow Warbler.Skin of adult female, I. of Wight, 1867,
Bree Coll.

... 3 local clutches ...

Skin of female, Spurn P

Phylloscopus sibilatrix (Bechst)
Wood Warbler.Skin of male, Gono ? 1861 (Dr. Adams),
Bree Coll.... Clutch of 7, Bohemia
Clutch of 5, Bishopstone ...

Sub-Family

ACROCEPHALINÆ.

Genus *Hypolais*.*Hypolais icterina* (vieill). *Icterine*
Warbler.Skins of adult male and female, Malta,
1861, Dr. Adams (Bree Coll.)

...

Genus *Acrocephalus*.*Acrocephalus streperus* (Vieill)
Reed Warbler.

... 2 clutches, Castle Howard ...

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
Acrocephalus palustris (Bechst) <i>Marsh Warbler.</i>	...	Clutch of 5, Saxony	...
Acrocephalus arundinaceus (Linn). <i>Gr. Reed Warbler.</i> Skins of male and female, South Russia (Schlüter)	...	2 clutches of 5, Anhalt	...
Acrocephalus aquaticus (Gmel) <i>Aquatic Warbler.</i> Skins of adult male and female, Europe (Verreaux)	...	Clutch of 4, Pomerania	...
Acrocephalus Schoenobænus (Linn). <i>Sedge Warbler.</i> Skins of male and female, Denmark (Bree Coll.)	...	3 local clutches	...
Genus Locustella.			
Locustella nævia (Bodd). <i>Grass-hopper Warbler.</i>	...	Clutch of 5, Copmanthorpe Clutch of 3, Uppingham	...
Family ACCENTORIDÆ.			
Genus Accentor.			
Accentor collaris (Scop). <i>Alpine Accentor.</i> 2 Skins of Adults, without data (Bree Coll.) Skin of adult male, Spurn Point, 1882 (Clarke)	...	One egg, local (?)	...
Accentor modularis (Linn). <i>Hedge Accentor.</i>	...	3 local clutches	...

SPECIMENS MOUNTED OR SKINS.	SKELETONS.	EGGS.	CASE No.
Family PANURIDÆ.			
Genus Panurus.			
Panurus biarmicus (Linn). <i>Bearded Titmouse.</i>			
(1. Ad. male, South Russia (Marsden)	Sclerotic	1 clutch (8), Potter Heigham	XLIV
2. Male, Norfolk, 1885 (Somerton)	rings,	1 ,, (5), in nest, Horsey	
3. Female ,, ,,	Allis Coll.	Mere	
Family PARIDÆ.			
Genus Acredula.			
Acredula rosea (Blyth). <i>Long-tailed Titmouse.</i>			
Skins of 2 males, Bournemouth (Marsden)	...	Clutch of 4, Langton ,, 10, Hampshire	...
Genus Parus.			
Parus major Linn. <i>Great Titmouse.</i>			
Skin of adult male, Essex, Bree Coll.	...	2 local clutches	...
Skin of adult, Yorks. (Clarke) P			
Parus britannicus, S. & D. <i>Cole Titmouse.</i>			
Skin of adult, Teesdale, 1882 (Backhouse) P	...	2 clutches, Thetford 1 clutch, Langton	...
Parus palustris, Linn. <i>Marsh Titmouse.</i>			
Skin of adult female, Wilstrop, nr. York, 1885 (Backhouse) P	...	2 clutches, Thetford	...
Skin of female, Church Fenton, 1885 (Backhouse) P			
Parus cæruleus, Linn. <i>Blue Titmouse.</i>			
Skin of adult male, Easington, Holderness, 1883 (Clarke) P	...	2 clutches, Midhurst	...
Skin of female, York, 1883 (Backhouse) P			
Parus cristatus, Linn. <i>Crested Titmouse.</i>			
Skins of 2 adult males, Sweden, Bree Coll.	...	2 clutches (1 foreign)	...

SPECIMENS MOUNTED OR SKINS.

SKELETONS.

EGGS.

CASE
No.

Family SITTIDÆ.

Genus Sitta.

Sitta cæsia, Wolf. *Nuthatch.*

(1. Clumber (Lambert)	P	...	1 clutch, 6, Silesia	LI
(2 & 3. Strickland Coll., without data				

Family CERTHIIDÆ.

Genus Certhia.

Certhia familiaris, Linn. *Creepers.*

(1. Stamford Bridge, 1890		...	1 clutch, Heslington	LVII
(2 & 3. Clumber (Lambert)	P		1 ,, Bohemian, extra fine	
			1 ,, Wansford	

Family TROGLODYTIDÆ.

Genus Troglodytes.

Troglodytes parvulus, Koch.*Common Wren.*

1. Adult, York, 1894	P	...	3 local clutches	LVIII
Skin of Female, Isle of Wight, 1867,				
(Bree Coll.)				

Family MOTACILLIDÆ.

Genus Motacilla.

Motacilla alba, Linn. *White Wagtail*

Skins of adult male and female, Bohemia

...	2 clutches, Saxony	...
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Motacilla lugubris, Temm. *Pied Wagtail.*

Skins of male and female, Isle of Wight, 1867, Bree Coll.

...	3 local clutches	...
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Motacilla melanope, Pall. *Grey Wagtail.*

Skin of female, Amur River (Taneré)

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CATALOGUE OF BRITISH PLANTS IN THE HERBARIUM
 OF THE
 YORKSHIRE PHILOSOPHICAL SOCIETY.

PART VI.

COMPILED BY HENRY J. WILKINSON, HON. CURATOR, BOTANY.

ROSACEÆ.

	DATE.	COLLECTOR.	HERBARIUM.
365. Prunus communis, Huds.			
Sloe. <i>Copses, &c., Sutherland to Channel Islands.</i>			
<i>Distrib.</i> Europe.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Thorparch, ,,	1840	S. Hailstone	S. Hailstone
366. Prunus insititia, Linn.			
Bullace. <i>Copses, &c., Lanark southward.</i>			
<i>Distrib.</i> Europe, N. Africa, Himalaya.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Pontefract, ,,	1832	S. Hailstone	,,
367. Prunus Cerasus, Linn.			
Wild Cherry. <i>Copses, &c., Yorkshire southward.</i>			
<i>Distrib.</i> Europe, W. Himalaya, &c.			
<i>Sp.</i> Woods in Kent	1811	S. Hailstone	S. Hailstone

	DATE.	COLLECTOR.	HERBARIUM.
368. Prunus padus, Linn.			
Bird Cherry. <i>Copses, &c., Caithness to Wales.</i>			
<i>Distrib.</i> Europe (Arctic), N. Africa, N. & W. Asia.			
<i>Sp.</i> Hackfall, Ripon	1790	J. Dalton	Rev. J. Dalton
Shipley, Yorks.	1800	S. Hailstone	S. Hailstone
High Force, Teesdale, Yorks. and Durham	1883	H. J. Wilkinson	H. J. Wilkinson
369. Spiræa Salicifolia, Linn.			
<i>Plantations, &c.; not indigenous.</i>			
<i>Sp.</i> Near Green Hammerton, Yorks. ...	1800	J. Dalton	Rev. J. Dalton
370. Spiræa ulmaria, Linn.			
Meadow-sweet. <i>Moist places, Shetland to Channel Islands.</i>			
<i>Distrib.</i> Europe (Arctic), N. Asia, &c.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Clifton Ings, York	1883	H. J. Wilkinson	H. J. Wilkinson
371. Spiræa filipendula, Linn.			
Dropwort. <i>Dry Pastures, &c., Caithness southward.</i>			
<i>Distrib.</i> Europe, N. Africa, N. Asia.			
<i>Sp.</i> Devil's Ditch, Stetworth, Cambs. ...	1839	S. Hailstone	S. Hailstone
Thorparch, Yorks.	June 30, 1849	Mr. Birkbeck	"
Near Newark, Notts.	1892	H. J. Wilkinson	H. J. Wilkinson
372. Rubus Chamæmorus, Linn.			
Cloudberry. <i>Peaty Alpine Moors, Caithness to Derby.</i>			
<i>Distrib.</i> N. Europe (Arctic), Siberia.			
<i>Sp.</i> Ingleborough, Yorks.	1803	J. Dalton	Rev. J. Dalton
Blair Athol, Perth.	1809	"	"
Morrone, Braemar, Aberdeens. ...	1887	H. Fisher	H. J. Wilkinson
" " "	1898	F. H. Weekes	F. H. Weekes
Cronkley Fell, Yorks.	1883	H. J. Wilkinson	H. J. Wilkinson

	DATE.	COLLECTOR.	HERBARIUM.
373. Rubus saxatilis, Linn.			
<i>Stony banks and copses, from Cornwall to Devon.</i>			
<i>Distrib.</i> Europe, N. & W. Asia.			
<i>Sp.</i> Mackershaw Woods, Ripon	1790	J. Dalton	Rev. J. Dalton
Castle Howard, Yorks.	1798	R. Teesdale	„
Beckdale, Helmsley, Yorks.	1885	H. J. Wilkinson	H. J. Wilkinson
374. Rubus Idæus, Linn.			
<i>Raspberry. Woods, &c., from Orkney southwards.</i>			
<i>Distrib.</i> Europe (Arctic), N. Africa, &c.			
<i>Sp.</i> Mackershaw Woods, nr. Ripon	1790	J. Dalton	Rev. J. Dalton
Crambe Beck, Castle Howard, Yorks.	1885	H. J. Wilkinson	H. J. Wilkinson
375. Rubus affinis, W. & N.			
Bramble, Blackberry.			
<i>Sp.</i> Croft, N. Yorks.	1830	J. Dalton	Rev. J. Dalton
Langwith, E. Yorks.	1885	H. J. Wilkinson	H. J. Wilkinson
376. Rubus Lindleianus, Lees.			
<i>Sp.</i> Langwith, York	1840	O. A. Moore	O. A. Moore
Skipwith, „	1885	H. J. Wilkinson	H. J. Wilkinson
377. Rubus rhamnifolius,			
W. & N.			
<i>Sp.</i> Croft, N. Yorks.	1830	J. Dalton	Rev. J. Dalton
Skipwith, „	1885	H. J. Wilkinson	H. J. Wilkinson
378. Rubus imbricatus, Hort.			
<i>Sp.</i> Glen Frome, W. Gloucester	Aug., 1883	J. W. White	H. J. Wilkinson

	DATE.	COLLECTOR.	HERBARIUM.
379. <i>Rubus leucostachys</i>, Sm.			
<i>Sp.</i> Leigh Wood, Somerset	1884	H. Fisher	H. J. Wilkinson
Langwith, York	1885	H. J. Wilkinson	„
380. <i>Rubus carpinifolius</i>, W. & N.			
<i>Sp.</i> Heslington, and Langwith, York ...	1885	H. J. Wilkinson	H. J. Wilkinson
381. <i>Rubus macrophyllus</i>, W. <i>Umbrosus, Arrh.</i>			
<i>Sp.</i> Skipwith, York	1885	H. J. Wilkinson	H. J. Wilkinson
382. <i>Rubus sprengelii</i>, Weihe.			
<i>Sp.</i> Skipwith, York	1885	H. J. Wilkinson	H. J. Wilkinson
383. <i>Rubus rosaceus</i>, W. & N.			
<i>Sp.</i> Langwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
384. <i>Rubus rudis</i>, Weihe.			
<i>Sp.</i> Abbots Leigh, Somersets.	1884	H. Fisher	H. J. Wilkinson
385. <i>Rubus radula</i>, Weihe.			
<i>Sp.</i> Clifton Down, Somersets.	1884	H. Fisher	H. J. Wilkinson
386. <i>Rubus corylifolius</i>, Sm.			
<i>Sp.</i> Langwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
387. <i>Rubus cæsius</i>, Linn. Dewberry.			
<i>Sp.</i> Skipwith, York	1883	H. J. Wilkinson	H. J. Wilkinson

	DATE.	COLLECTOR.	HERBARIUM.
388. Dryas octopetala, Linn.			
<i>Limestone and mountain districts, Orkney to Carnarvon.</i>			
<i>Distrib.</i> Arctic and Alpine regions, N. temp. zone.			
<i>Sp.</i> Blair Athol, Perthshire.	1801	J. Dalton	Rev. J. Dalton
Arncliffe Clouder, Yorks.	1803	"	"
Most abundantly upon Cronkley Fell, Yorks., Aug. 25	1824	S. Hailstone	S. Hailstone
389. Geum urbanum, Linn.			
<i>Avens. Copses, hedge-banks, &c., from Caithness southwards.</i>			
<i>Distrib.</i> Europe (Arctic), N. Africa.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
390. Geum intermedium, Ehrh.			
<i>Sp.</i> Knaresboro', Yorks.	1798	J. Dalton	Rev. J. Dalton
391. Geum rivale, Linn.			
<i>Copses and moist places, Orkney to Devon.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Malham Tarn, Yorks.	1808	S. Hailstone	S. Hailstone
Strensall Common, York	1881	H. J. Wilkinson	H. J. Wilkinson
392. Fragaria vesca, Linn.			
<i>Wild Strawberry. Stony places, Shetland to Channel Islands.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Castle Howard, Yorks.	1881	H. J. Wilkinson	H. J. Wilkinson

	DATE.	COLLECTOR.	HERBARIUM.
393. <i>Potentilla norvegica</i>, Linn.			
<i>Alien.</i>			
<i>Sp.</i> from bank of Leeds and Liverpool Canal, near Armley, Yorks.	1893	W. Kirkby	H. J. Wilkinson
<i>Potentilla fragariastrum</i>, Ehrh.			
<i>Woods and banks, Caithness to Channel Islands.</i>			
<i>Distrib.</i> Europe, N. Africa.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Strensall, York	1881	H. J. Wilkinson	H. J. Wilkinson
394. <i>Potentilla verna</i>, Linn.			
<i>Rocky places (limestone, &c.), Forfar to Somerset.</i>			
<i>Distrib.</i> Europe (Arctic), Siberia.			
<i>Sp.</i> Bury St. Edmunds, Suffolk	(1800)	Sir T. G. Cullum	Rev. J. Dalton
St. Vincent's Rocks, Bristol	1796	J. Dalton	"
" " "	1884	H. Fisher	H. J. Wilkinson
395. <i>Potentilla salisburgensis</i>, Haenke.			
<i>Alpine districts, from Aberdeen to Wales.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Ben Lawers, Perth	1808	J. Dalton	Rev. J. Dalton
Gordale, Settle, Yorks.	1810	"	"
Near Loch Tay, Perth.	1809	W. Middleton	W. Middleton
Rocks by Malham Tarn, Yorks.	1832	S. Hailstone	S. Hailstone
396. <i>Potentilla tormentilla</i>, Scop.			
<i>Heaths, dry pastures, &c., Shetland to Channel Islands.</i>			
<i>Distrib.</i> Europe (Arctic), W. Siberia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Strensall, nr. York	1881	H. J. Wilkinson	H. J. Wilkinson

	DATE.	COLLECTOR.	HERBARIUM.
397. <i>Potentilla procumbeus</i>, Sibth.			
<i>Sp.</i> Croft, N. Yorks.	1830	J. Dalton	Rev. J. Dalton
398. <i>Potentilla reptans</i>, Linn.			
<i>Pastures and waysides, from Caithness southward.</i>			
<i>Distrib.</i> Europe, N. & W. Asia, Himalaya.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Brafferton, Yorks.	1834	Rev. W. Gray	H. J. Wilkinson
399. <i>Potentilla anserina</i>, Linn.			
<i>Silver-weed. Roadsides, from Shetland to Channel Islands.</i>			
<i>Distrib.</i> Arctic and N. & S. temp. regions.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Brafferton, ,,	1834	Rev. W. Gray	H. J. Wilkinson
400. <i>Potentilla rupestris</i>, Linn.			
<i>Rocks, Craig Breidden, Montgomery.</i>			
<i>Distrib.</i> Gothland southward, N. & W. Asia.			
<i>Sp.</i> Craig Breidden, Montgomeryshire ...	1830	Henslow	Rev. J. Dalton
,, ,, ,, ...	1866	W. Whitwell	W. Whitwell
401. <i>Potentilla argentea</i>, Linn.			
<i>Dry pastures and roadsides, Elgin southward.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Near Newark, Notts.	1820	W. Middleton	W. Middleton
Perthshire	(1840)	G. Munby	Giles Munby

	DATE.	COLLECTOR.	HERBARIUM.
402. Potentilla fruticosa, Linn.			
<i>Rocky banks by rivers, Yorks., Durham, Cumberland, Westmoreland, N. Clare, Galway.</i>			
<i>Distrib.</i> N. & Mid-Europe, Alps (Arctic), Himalaya.			
Sp. Banks of the Tees, High Force,			
Yorks. and Durham	1807	J. Dalton	Rev. J. Dalton
" " " "	1883	H. J. Wilkinson	H. J. Wilkinson
403. Potentilla comarum, Nestl.			
<i>Bogs and marshes, Shetland to Channel Islands.</i>			
<i>Distrib.</i> Europe (Arctic), N. Asia, &c.			
Sp. Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Malham Tarn, Yorks.	1807	S. Hailstone	S. Hailstone
Skipwith Common, York	1881	H. J. Wilkinson	H. J. Wilkinson
Heslington, York	1820	W. Middleton	W. Middleton
404. Potentilla sibbaldia, Hall f.			
<i>Scotch Alps, Shetland to Peebles.</i>			
<i>Distrib.</i> Alpine and Arctic Europe, N. Asia.			
Sp. Ben a Bourd, Aberdeens.	1831	R. K. Greville	Rev. J. Dalton
Ben Lawers, Perth.	1808	J. Dalton	"
Ben Nevis, Inverness	1810	W. Middleton	W. Middleton
405. Alchemilla arvensis,			
Lamk.			
<i>Waste places (sandy soil), Shetland to Channel Islands.</i>			
<i>Distrib.</i> Europe, N. Africa, W. Asia.			
Sp. Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Heslington, York	1802	W. Middleton	W. Middleton

	DATE.	COLLECTOR.	HERBARIUM.
406. Alchemilla vulgaris, Linn.			
<i>Moist places, pastures, &c., Shetland southwards.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Heslington, York	1820	W. Middleton	W. Middleton
407. Alchemilla alpina, Linn.			
<i>Mountain streams and rocks, Shetland to York.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Ambleside, Westmoreland	1809	J. Dalton	Rev. J. Dalton
Borrowdale, Cumberland	1804	S. Hailstone	S. Hailstone
408. Agrimonia eupatoria,			
Linn.			
<i>Hedge-banks and copses, from Sutherland southward.</i>			
<i>Distrib.</i> Europe, N. & S. Africa, &c.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Redcar, Yorks.	1800	S. Hailstone	S. Hailstone
409. Poterium sanguisorba,			
Linn.			
<i>Dry pastures, Perth to Channel Islands.</i>			
<i>Distrib.</i> Europe, N. Africa, and N. & W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Heslington, York	1803	W. Middleton	W. Middleton
410. Poterium officinale, Hook f.			
<i>Meadows from Ayr to Channel Islands.</i>			
<i>Distrib.</i> Europe (Arctic), N. & W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1791	J. Dalton	Rev. J. Dalton
Heslington, York	1803	W. Middleton	W. Middleton

	DATE.	COLLECTOR.	HERBARIUM.
411. <i>Rosa spinosissima</i>, Linn. Scotch Rose. <i>Sandy sea shores, &c., from Caithness southward.</i> <i>Distrib.</i> Europe (Arctic), N. Africa, &c.			
<i>Sp.</i> Hartlepool, Durham	1799	S. Hailstone	S. Hailstone
Hackness, Scarboro'	1850	W. Bean	H. J. Wilkinson
Cambridge	1786	J. Dalton	Rev. J. Dalton
Bramham Moor, Yorks.	1809	S. Hailstone	S. Hailstone
The Burrows, Tenby, Pembrokes. ...	1899	H. M. Platnauer	H. M. Platnauer
412. <i>Rosa involuta</i>, Sm. <i>Var. Smithii</i> , Baker.			
<i>Sp.</i> Holwick, Teesdale, Yorks.	1820	J. Dalton	Rev. J. Dalton
413. <i>Rosa involuta</i>, Sm. <i>Var. Sabini</i> , Woods.			
<i>Sp.</i> Holwick, Teesdale, Yorks.	(1820)	J. Dalton	Rev. J. Dalton
Heaton Dene, Durham	(1820)	Winch	„
414. <i>Rosa involuta</i>, Sm. <i>Var. Doniana</i> , Woods.			
<i>Sp.</i> Henfield, Sussex	1820	W. Borrer	Rev. J. Dalton
High Force, Teesdale, Yorks.	1883	H. J. Wilkinson	H. J. Wilkinson
415. <i>Rosa involuta</i>, Sm. <i>Var. Robertsoni</i> , Baker.			
<i>Sp.</i> Near High Force, Teesdale, Yorks....	1883	H. J. Wilkinson	H. J. Wilkinson
416. <i>Rosa hibernica</i>, Sm.			
<i>Sp.</i> Near Belfast, Ireland	(1810)	D. Turner	Rev. J. Dalton
417. <i>Rosa mollis</i>, Sm. <i>Hedges, &c., Orkney southward.</i> <i>Distrib.</i> Europe (Arctic), W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Near Cambridge	1786	„	„
Braemar, Aberdeens.	1887	H. Fisher	H. J. Wilkinson
Langwith, York	1883	H. J. Wilkinson	„

	DATE.	COLLECTOR.	HERBARIUM.
418. Rosa tomentosa, Sm.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Langwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
Cambridge	1786	J. Dalton	Rev. J. Dalton
Acomb, York	1883	H. J. Wilkinson	H. J. Wilkinson
419. Rosa tomentosa, Sm.			
<i>Var. subglobosa, Sm.</i>			
<i>Sp.</i> Holwick, Teesdale, Yorks.	1830	J. Dalton	Rev. J. Dalton
420. Rosa tomentosa.			
<i>Var. scabriuscula, Sm.</i>			
<i>Sp.</i> Near Egton Bridge, N. E. Yorks. ...	1830	J. Dalton	Rev. J. Dalton
421. Rosa rubiginosa, Linn.			
Sweetbriar. <i>Native.</i>			
<i>Sp.</i> On the Malton Road, five miles from York	1883	H. J. Wilkinson	H. J. Wilkinson
422. Rosa micrantha, Sm.			
<i>Sp.</i> Near Egton Bridge, N. E. Yorks. ...	1820	W. Middleton	W. Middleton
423. Rosa canina, Linn.			
Dog Rose. <i>Hedges, &c., Orkney to Channel Islands.</i>			
<i>Distrib.</i> Europe, N. Africa, &c.			
<i>Sp., Var. lutetiana, Leman, Copgrove, Yorks.</i>	1790	J. Dalton	Rev. J. Dalton
424. Var. surculosa, Woods.			
<i>Sp.</i> Croft, Yorks.	1830	J. Dalton	Rev. J. Dalton
425. Var. dumalis, Bechst.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Langwith, Yorks.	1883	H. J. Wilkinson	H. J. Wilkinson

Rosa canina.

	DATE.	COLLECTOR.	HERBARIUM.
426. <i>f. verticillacantha</i> , Mérat. <i>Sp.</i> Between Sherburn and So. Milford, Yorks.	1886	H. J. Wilkinson	H. J. Wilkinson
427. <i>Var. urbica</i> , Leman. <i>Sp.</i> Langwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
428. <i>Var. arvatica</i> , Baker. <i>Sp.</i> Skipwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
429. <i>Var. dumetorum</i> , Thuill. <i>Sp.</i> Langwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
430. <i>Var. obtusifolia</i> , Desv. <i>Sp.</i> Between Sherburn and So. Milford, Yorks.	1886	H. J. Wilkinson	H. J. Wilkinson
431. <i>Var. tomentella</i> , Leman. <i>Sp.</i> Heslington, York	1883	H. J. Wilkinson	H. J. Wilkinson
432. <i>Var. suberistata</i> , Baker. <i>Sp.</i> Langwith, York	1885	H. J. Wilkinson	H. J. Wilkinson
433. <i>Var. Watsoni</i> , Baker. <i>Sp.</i> Skipwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
434. <i>Var. Bakeri</i> , Déségl. <i>Sp.</i> Langwith, York	1883	H. J. Wilkinson	H. J. Wilkinson
435. Rosa stylosa (systyla Bast.) <i>Sp.</i> Hartwell, Sussex	(1820)	W. Borrer	Rev. J. Dalton
436. Rosa arvensis , Huds. <i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton

	DATE.	COLLECTOR.	HERBARIUM.
437. <i>Pyrus torminalis</i>, Ehrh. <i>Woods and hedges, Lancashire southward.</i> <i>Distrib.</i> Europe, W. Asia, N. Africa. <i>Sp.</i> Sussex	1803	W. Borrer	Rev. J. Dalton
438. <i>Pyrus Aria</i>, Sm. White beam. <i>Copses, &c., Sutherland.</i> <i>Distrib.</i> Europe, N. Africa, N. & W. Asia. <i>Sp.</i> Leigh, Woods, Somerset Knaresboro', York (? <i>Pyrus rupicola</i> , Sym.)	1885 1798	H. Fisher J. Dalton	H. J. Wilkinson Rev. J. Dalton
439. <i>Pyrus aucuparia</i>, Ehrh. Rowan-tree, Mountain Ash. <i>Woods, &c.</i> <i>Caithness southward.</i> <i>Distrib.</i> Europe, N. & W. Asia, Himalaya, &c. <i>Sp.</i> Copgrove, Yorks. Heslington, York	1790 1803	J. Dalton W. Middleton	Rev. J. Dalton W. Middleton
440. <i>Pyrus communis</i>, Linn. Wild Pear. <i>Woods, &c., York southward.</i> <i>Distrib.</i> E. Europe, N. W. Asia. <i>Sp.</i> Curwen's Island, Windermere, West- moreland	1808	J. Dalton	Rev. J. Dalton
441. <i>Pyrus malus</i>, Linn. Crab Apple. <i>Copses, &c., Perth south- ward.</i> <i>Distrib.</i> Europe, W. Asia, Himalaya. <i>Sp.</i> Copgrove, Yorks. Heslington, York	1790 1803	J. Dalton W. Middleton	Rev. J. Dalton W. Middleton

	DATE.	COLLECTOR.	HERBARIUM.
442. Cratægus oxyacantha, Linn.			
Hawthorn. <i>Hedges, woods, &c., Shet-</i> <i>land southward.</i>			
<i>Distrib.</i> Europe, N. Africa, N. & W. Asia.			
<i>Sp.</i> Copgrove, Yorks.	1790	J. Dalton	Rev. J. Dalton
Heslington, York	1803	W. Middleton	W. Middleton
443. Cotoneaster vulgaris, Lindl.			
<i>Limestone cliffs, Great Orme's Head.</i>			
<i>Distrib.</i> Europe, N. & W. Asia.			
<i>Sp.</i> Great Orme's Head, N. Wales ...	1825	W. Wilson	Rev. J. Dalton



